Claims

1. A method for wireless ad hoc network formation, where the forming is to be performed by a device operable in a wireless network, **characterized** in that said method comprises the steps of

-checking if more connections are allowed for said device (404),

-inquiring for other devices in range (406),

-connecting to a device responded first (408).

2. A method of claim 1, **characterized** in that if more connections are not allowed, the step of checking (404) is repeated until the condition allowing a new connection is met.

3. A method of claim 1-2, **characterized** in that the maximum number of allowed simultaneous connections is dependent on the current role of said device.

4. A method of claim 1-3, **characterized** in that if several new connections are allowed for said device and more than one response is received, as many connections as allowed and available are established during said connecting phase.

5. A method of claim 1-4, **characterized** in that the step of inquiring (406) is repeated until a connection to another device is established.

6. A method of claim 1-5, **characterized** in that it is to be performed when an existing connection fails.

7. A method of claim 1-6, **characterized** in that said connection is established substantially utilizing Bluetooth technology.

8. A method of claim 7, **characterized** in that said method further includes a step of temporarily leaving a current piconet in order to connect to a device (408) not belonging to said current piconet, still maintaining existing connections in said current piconet by utilizing time division multiplexing.

9. A method of claim 1-7, **characterized** in that said device executing said method retains its role for a new connection.

10. A method of claim 1-7, **characterized** in that said device executing said method switches its role as a master or a slave for a new connection.

11. A method of claim 7, **characterized** in that said inquiring is executed substantially as INQUIRY or INQUIRY SCAN procedure.

12. A method for wireless ad hoc network formation, where the forming is to be performed by a device operable in a wireless network, **characterized** in that said method comprises the steps of

-acquiring parameters from existing connections (502),

-checking if parameter related criteria for breaking a connection is met (504),

-breaking an existing connection (505),

-inquiring for other devices in range (506) ,

-connecting to a device responded first (508).

13. A method of claim 12, **characterized** in that if parameter related criteria for breaking up a connection is not met, the execution of the first two steps (502, 504) is repeated until the condition for a breaking a certain connection is met.

14. A method of claim 12, **characterized** in that said inquiry step is repeated until a connection to another device is established.

15. A method of claim 12, **characterized** in that said criteria concerns the amount of traffic transmitted through an existing connection.

16. A method of claim 12, **characterized** in that said criteria is adaptively updated.

17. A method of claim 12, **characterized** in that said connection is established substantially utilizing Bluetooth technology.

18. A method of claim 17, **characterized** in that said method further includes a step of temporarily leaving a current piconet in order to connect to a device (508) not belonging to said current piconet, still maintaining existing connections in said current piconet by utilizing time division multiplexing.

19. A method of claim 12-18, **characterized** in that said device executing said method retains its role (slave) for a new connection.

20. A method of claim 12-18, **characterized** in that said device executing said method switches its role as a master or a slave for a new connection.

21. A method of claim 17, **characterized** in that said inquiring (506) is executed substantially as INQUIRY or INQUIRY SCAN procedure.

22. A computer program comprising code means adapted to perform the steps of the method of claim 1-21 when said program is run on a computer.

23. A carrier medium carrying the computer executable program of claim 22.

24. A device operable (206) in a wireless network, comprising processing means (214) and memory means (202) for processing and storing instructions and data, **characterized** in that said device is arranged to check if more connections are allowed for said device and if that is the case, arranged to inquire for other devices in range and connect to a device responded first.

25. A device of claim 24, **characterized** in that it is arranged to repeat the checking of connections until establishing new connections is allowed.

26. A device of claim 24, **characterized** in that it is arranged to inquire for other devices until said connection is established.

27. A device of claim 24, **characterized** in that it is arranged to alter the number of simultaneous connections allowed dependently on the current role of said device.

28. A device of claim 24, **characterized** in that if several new connections are allowed for said device and more than one response is received, said device is arranged to establish as many connections as allowed and available.

29. A device of claim 24-28, **characterized** in that said connection is established substantially utilizing Bluetooth technology.

30. A device of claim 29, **characterized** in that it is arranged to connect to a device not belonging to a current piconet, and arranged to still maintain existing connections in said current piconet by utilizing time division multiplexing.

31. A device of claim 24-29, **characterized** in that it is arranged to retain its role for a new connection.

32. A device of claim 24-29, **characterized** in that it is arranged to switch its role as a master or a slave for a new connection.

33. A device of claim 29, **characterized** in that it is arranged to inquire other devices by utilizing INQUIRY or INQUIRY SCAN procedures.

34. A device of claim 24, **characterized** in that it is substantially a personal communications device.

35. A device of claim 34, **characterized** in that it is substantially a GSM (Global System for Mobile communications) or UMTS (Universal Mobile Telecommunication System) terminal.

36. A device operable (206) in a wireless network, comprising processing means (214) and memory means (202) for processing and storing instructions and data, **characterized** in that said device is arranged to acquire parameters from existing connections, check if parameter related criteria for breaking a connection is met, and if that is the case, arranged to break an existing connection with criteria met, inquire for other devices in range, and connect to a device responded first.

37. A device of claim 36, **characterized** in that it is arranged to repeatedly acquire and check said parameters until the condition for a breaking a certain connection is met.

38. A device of claim 36-37, **characterized** in that said inquiry process is continued until a connection to another device is established.

39. A device of claim 36, **characterized** in that said it is arranged to intermittently update said criteria.

40. A device of claim 36, **characterized** in that it is arranged to utilize Bluetooth technology in said connections.

41. A device of claim 40, **characterized** in that it is arranged to connect to a device not belonging to a current piconet, and arranged to still maintain existing connections in said current piconet by utilizing time division multiplexing.

42. A device of claim 36-40, **characterized** in that it is arranged to retain its role for a new connection.

43. A device of claim 36-40, **characterized** in that it is arranged to switch its role as a master or a slave for a new connection.

44. A device of claim 40, **characterized** in that it is arranged to inquiry other devices by utilizing INQUIRY or INQUIRY SCAN procedures.

45. A device of claim 36, **characterized** in that it is substantially a personal communications device.

46. A device of claim 36, **characterized** in that it is substantially a GSM (Global System for Mobile communications) or UMTS (Universal Mobile Telecommunication System) terminal.